

MULTI-MODE TERMINAL IN A WIRELESS MIMO SYSTEM

ABSTRACT

A user terminal supports multiple spatial multiplexing (SM) modes such as a steered mode and a non-steered mode. For data transmission, multiple data streams are coded and modulated in accordance with their selected rates to obtain multiple data symbol streams. These streams are then spatially processed in accordance with a selected SM mode (e.g., with a matrix of steering vectors for the steered mode and with the identity matrix for the non-steered mode) to obtain multiple transmit symbol streams for transmission from multiple antennas. For data reception, multiple received symbol streams are spatially processed in accordance with the selected SM mode (e.g., with a matrix of eigenvectors for the steered mode and with a spatial filter matrix for the non-steered mode) to obtain multiple recovered data symbol streams. These streams are demodulated and decoded in accordance with their selected rates to obtain multiple decoded data streams.